

We claim:

1. A light emitting composite arrangement, comprising:

an electroluminescent polymer material, said electroluminescent polymer electroluminescing ultraviolet light, and

a plurality of photoluminescent nanoparticles energetically coupled to said electroluminescent polymer, said arrangement emitting red-shifted light relative to said ultraviolet light.

2. The composite of claim 1, wherein said electroluminescent polymer is a polysilane.

3. The composite of claim 2, wherein said polysilane is a substituted polysilane selected from the group consisting of monoalkyl polysilanes, dialkyl polysilanes, monoalkyl-aryl polysilanes, monoaryl polysilanes, and diaryl polysilanes.

4. The composite of claim 1, wherein said nanoparticles comprise at least one selected from the group consisting of CdSe, ZnS, CdS, ZnSe, ZnTe and CdTe.

5. The composite of claim 1, wherein said nanoparticles are intermixed with said polymer.

6. The composite of claim 1, wherein said nanoparticles are provided in a layer separated from said electroluminescent polymer.

7. The composite of claim 1, further comprising at least one of a hole transport layer and an electron transport layer, said energy transport layer energetically coupled to said electroluminescent polymer.

8. The composite of claim 1, wherein said nanoparticles comprise core-shell particles.

9. The composite of claim 8, wherein cores of said core-shell particles are selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe and CdTe and shells of said core-shell particles are selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe and CdTe.

10. A light emitting device, comprising:

an anode;

a cathode, and

a light emitting composite arrangement disposed between said anode and said cathode, said composite including an electroluminescent polymer material, said electroluminescent polymer electroluminescing ultraviolet light, and

a plurality of photoluminescent nanoparticles energetically coupled to said polymer, said device emitting red-shifted light relative to said ultraviolet light.

11. The device of claim 10, wherein said electroluminescent polymer is a polysilane.

12. The device of claim 11, wherein said polysilane is a substituted polysilane selected from the group consisting of monoalkyl polysilanes, dialkyl polysilanes, monoalkyl-aryl polysilanes, monoaryl polysilanes, and diaryl polysilanes.

13. The device of claim 10, wherein said nanoparticles comprise at least one selected from the group consisting of CdSe, ZnS, ZnSe, ZnTe, CdS and CdTe.

14. The device of claim 10, further comprising at least one of a hole transport layer between said polymer and said anode and an electron transport layer between said polymer and said cathode.

15. The device of claim 10, wherein at least a portion of said nanoparticles are disposed in said hole transport layer or said electron transport layer.

16. The device of claim 10, wherein at least a portion of said nanoparticles are intermixed with said polymer.

17. The device of claim 10, wherein said anode comprises indium tin oxide (ITO) and said cathode comprises Ca, Al or Mg/Ag.

18. The device of claim 10, wherein said device comprises a plurality of pixels, said plurality of pixels including red, green and blue pixels.

19. The device of claim 10, wherein said nanoparticles comprise core-shell particles.

20. The device of claim 19, wherein cores of said core-shell particles are selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe and CdTe and shells of said core-shell particles are selected from the group consisting of ZnS, ZnSe, ZnTe, CdS, CdSe and CdTe.